STATEMENT OF BASIS

Norco Refinery
Motiva Enterprises LLC
Alkylation Unit
Norco, St. Charles Parish, Louisiana
Agency Interest Number: 1406
Activity Number: PER20030062
Draft Permits 2600-V1

I. APPLICANT:

Company:

Motiva Enterprises LLC Post Office Box 10 Norco, Louisiana 70079

Facility:

Norco Refinery Logistics I and II Units 15536 River Road, Norco, St. Charles Parish, Louisiana Approximate Coordinates: Latitude 29 deg., 59 min., 58 sec. and Longitude 90 deg., 24 min., 13 sec., Zone 15

Responsible Official:

Ms. Anne-Marie Ainsworth, General Manager

II. FACILITY AND CURRENT PERMIT STATUS

Motiva Enterprises (Motiva), LLC owns and operates a petroleum refinery, Norco Refinery, in Norco, St. Charles Parish, Louisiana. The Norco Refinery process crude oil, natural gas condensate, and partially refined products such as gas oil, to produce liquefied petroleum gas, ethylene, propylene, chemical products, finished gasoline, diesel, aviation fuel, heating oils, residuals, petroleum coke, and sulfur.

Historically, this site consisted of the Shell Norco Refining Company and Shell Chemical Company (Shell). In 1998; Shell Oil Company, Texaco Inc. and Saudi Aramco formed Motiva Enterprises (Motiva), LLC, a joint venture combining major elements of the three companies' eastern and Gulf Coast refining and marketing businesses. Based on new business ventures Shell Chemical Company and Motiva are viewed as separate sites. Motiva is splitting the old permits and is now permitting all the units and equipment now being operated under the Norco Refinery. This statement of basis is for two permits, Logistics I and Logistics II which is a split of Part 70 Permit No. 2510-V1 dated July 21, 2000.

The facility proposes to include the requirements of Louisiana Refinery MACT Determination for Refinery Equipment Leaks (Fugitive Emission Sources) dated July 26, 1994 into the permit. Update the insignificant activities list based on current operating conditions and incorporate previous minor permit actions approved under the Case by Case: a) Tank L-433 Cleaning emissions; b) Cooling Tower chlorine system replacement; c) Removal of Tank XR-411; and d) Tank F-467 turnaround emissions. Also, include the tank cleaning emissions and update the VOC speciation. The tank cleaning emissions were

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permitted under variances in the past.

In addition, the facility will replace the Alky Reactor Tube Bundle for Reactors Nos. 5, 6, 7, 8 and 10. The new bundles will have an increase of 35% heat transfer area. This will increase the cooling capacity and thus reduce sulfuric acid consumption and have a higher octane value alkylate product. This replacement is a modification to the facility under the requirements of 40 CFR 60.15 (reconstruction) and requires a netting analysis.

Also, the facility will repair the Alky cooling water tower. This project includes replacing the structural members, distribution basin decking, fan decks, louvers, gear reducers, support frames and casing walls, access ladders and handrails, cooling water material, and fan motors.

The reconstruction of The Alky Unit project emissions increases due to excess venting to the flare, Emission Point 9-84 (incremental increase) in Logistics II Part 70 Permit No. 2912-V0 (on public notice) in tons per year is as follows:

Pollutant	2005/2006 Average Emissions (a)	Alky Unit Project Emissions(b)	Incremental Emissions(c)	Total Emissions Increase (d)
PM_{10}	0.25	*	1.27	1.27
SO ₂	0.24	*	-	-
NO_X	2.28	*	11.54	11.54
СО	12.40	*	62.80	62.80
VOC	7.19	*	23.76	23.76

* The current permitted limits for the Alky Unit will not change due to the reconstruction but there will be an increase due to increased venting to the existing flare. The overall total emissions increase is less than the Prevention of Significant Deterioration (PSD) significance threshold for all criteria pollutants. PSD review is not required. The 2005/2006 average emissions are from the West Ops Ground Flare, Emission Point 9-84.

STATEMENT OF BASIS

Norco Refinery
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Alkylation Unit
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Agency Interest Number: 1406
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The facility will also undertake miscellaneous maintenance activities at the facility in order to maintain safe process conditions and improve performance of the Alky Unit. The activities are as follows:

- 1. General safeguarding of unit equipment;
- 2. Clean and inspect heat exchangers are required for possible in kind replacement;
- 3. Modify E-907 DIB Bottoms Cooler to reduce fouling and loss of production;
- 4. Replace E-210 motor alkylate cooler;
- 5. Convert E-887 and E-896 from 4 pass to 2 pass exchangers and clean and inspect bundles:
- 6. Repair or replace channel head and nozzle on shell of E-897;
- 7. Replace the shell and channel head on E-628;
- 8. Replace E-911 X-1696 Oil Cooler;
- 9. Replace and upgrade metallurgy of E-912 X1696 Gland Seal Condenser to reduce fouling and cracking;
- 10. Install new feed trip systems and valves on all reactors;
- 11. Remove FE-2841 before E-906 to increase well water flow through the recycle isobutene cooler;
- 12. Upgrade the metallurgy on PV-346, 385, 386, 390' and 394B;
- 13. Upgrade the depropanizer system to Teflon piping;
- 14. Increase DIB feed nozzle height on PV-410;
- 15. Revise suction discharge on P-3511;
- 16. Install an end blind for the DIB to Utilities Column line;
- 17. Perform maintenance on olefins feed header piping;
- 18. Remove double block valve and install spool on PV-346 FAS;
- 19. Add valve to unplug flare line onP-1194;
- 20. Upgrade the fresh acid header to Teflon pipe;
- 21. Re-tube the top half and upgrade tubes o fE-669;
- 22. Weld overlay on E-888A;
- 23. Install block valves on equipment where needed; and
- 24. Other maintenance activities as required

STATEMENT OF BASIS

Norco Refinery
Motiva Enterprises LLC
Alkylation Unit
Norco, St. Charles Parish, Louisiana
Agency Interest Number: 1406
Activity Number: PER20030062
Draft Permits 2600-V1

Estimated permitted emissions from the Alky Unit in tons per year are as follows:

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
PM_{10}	2.30	2.30	-
SO ₂	0.10	0.10	-
NO_X	-	-	•
CO	-	-	
VOC *	392.90	314.90	- 78.00

Initial/Modified Title V Part 70 permits that were issued by the department include:

Permit #	Units or Sources	Date Issued
2501-V1	Coker, Distillation, and Kerosene	9/26/2006
	Units	
2502-V1	Catalytic Reformers I and 2,	1/10/2005
	Naphtha Hydrotreater, and Diesel	
	Hydrotreater Units	
2510-V1	Logistics, Flares and Shared	7/21/2000
	Sources	
2600-V0	Alkylation Unit	4/29/1999
2601-V0	Methyl Tertiary Butyl Ether Unit	4/29/1999
2602-V1	Residue Catalytic Cracking Unit	1/13/2004
2628-V1	Hydrogen Plant	1/10/2005
2629-V1	Hydrocracker Unit	4/14/2005
2794-V1	Low Sulfur Gasoline Hydrotreater	3/11/2005
	Unit	
2902-V0	Sulfur Plant No. 2	12/20/2004
2903-V0	Sulfur Plant No. 3	12/20/2004

Initial Title V Part 70 General permits issued by the department include:

initial Title 7 Tate 70 Constat permits issued by the department instability		
Permit #	Units or Sources	Date Issued
2899-V0	Kerosene Treater Naphthenic Caustic Tank	7/29/2004
3012-V0	Feliciana Pipeline Project	11/16/2005
3052-V0	HCU Condensate Injection Pumps	1/25/2007

STATEMENT OF BASIS

Norco Refinery
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Alkylation Unit
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Agency Interest Number: 1406
Activity Number: PER20030062
Draft Permits 2600-V1

Permit #	Units or Sources	Date Issued
3054-V0	Tanks F-517 and XC-518	3/13/2007

Renewal/ Modification permits under review by the department include:

Permit #	Units or Sources	Date Issued
2794-V2	Low Sulfur Gasoline Hydrotreater	Under Review
	Unit	
2629-V1	Hydrocracker Unit	Under Review
2628-V2	Hydrogen Plant	Under Review
2902-V0	Sulfur Plant No. 2	Under Review
2903-V0	Sulfur Plant No. 3	Under Review
2501-V1	Coker, Distillation, and Kerosene	Under Review
	Units	

III. PROPOSED PERMIT/PROJECT INFORMATION

Proposed Permits

RGHT: A permit application and Emission Inventory Questionnaire (EIQ) dated March 15, 2007 was submitted to modify and renew the existing permit for the RCCU Gasoline Hydrotreater (RGHT) Unit. Additional information as of October 22, 2007 was also received.

MTBE: A permit application and Emission Inventory Questionnaire (EIQ) was submitted on October 24, 2003 requesting an approval of proposed modification and renewal to the existing Permit No. 2601-V0. Updated and modified permit applications and EIQs dated May 5, 2004; March 7, 2005; April 30, 2007; and May 7, 2007 were also submitted. Additional information as of October 16, 2007 was also received.

Project description

RGHT: The facility proposes to reconcile the emissions sources inventory, potential emission rates and regulatory determinations based on the split from Shell Chemical Company. Also, incorporate approved minor permit actions, tank cleaning emissions, Alky Reactor Tube Bundle replacement on Reactors Nos. 5, 6, 7, 8, and 10. The facility will also repair the existing cooling water tower and undertake miscellaneous maintenance activities in order to maintain safety process conditions and improve performance during the upcoming Alky Unit turnaround.

MTBE: The facility proposes to reconcile the emission sources inventory, potential

STATEMENT OF BASIS

Norco Refinery
Motiva Enterprises LLC
Alkylation Unit
Norco, St. Charles Parish, Louisiana
Agency Interest Number: 1406
Activity Number: PER20030062
Draft Permits 2600-V1

emission rates and regulatory determinations based on the split from Shell Chemical Company, recently approved permit actions, updated US EPA emission factors, update the Louisiana refinery MACT Determination for Refinery Equipment Leaks (Fugitive Sources) and current operations.

IV. REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and is provided in the Facility Specific Requirements Section of the proposed permits. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms conditions and standards are provided in the Facility Specific Requirements Section of the proposed permits.

National Emission Standards for Hazardous Air Pollutants: NESHAP From Benzene Waste Operations (BWON)

Chemical manufacturing plants, coke by-product plant and petroleum refineries are potentially subject to the provisions of BWON. Oil water separators, individual drain systems, stream stripping units, and other equipment that meet the definition of a waste management unit are subject to BWON. A waste management unit is defined as a piece of equipment used in the handling, storage, treatment, or disposal of waste. A waste is any material resulting from industrial operations that is discarded or accumulated, stored, or treated prior to discarded, recycled, or discharged. BWON specifically lists the following waste streams to which this regulation do not apply: 1) Waste in the form of gases or vapors that is emitted from process fluids; 2) Waste that is contained in a segregated storm water sewer system; and 3) Any gaseous stream from a waste management unit, treatment process, or wastewater treatment system routed to a fuel gas system.

The facility generates a total annual benzene (TAB) quantity of 10 megagrams per year or greater. The facility elects to take the 6 megagrams per year option as per the requirements of 40 CFR 63.342(e) where the total uncontrolled benzene quantity for the wastes shall not be greater than 6 megagrams per year.

National Emission Standards for Hazardous Air Pollutants: NESHAP From Synthetic Organic Chemical Manufacturing Industry

A chemical manufacturing process unit (CMPU) that manufactured one or more SOCMI chemicals listed in Table 1 of 40 CFR 63, Subpart F and that uses as a reactant or manufactures as a product, or co-product, one or more of the organic hazardous air pollutants listed in Table 2 of 40 CFR 63, Subpart F is potentially subject to the SOCMI HON. Some of the Chemical Manufacturing Process Units (CMPUs), located elsewhere in the refinery, may generate maintenance wastewater and Group 2 process wastewater

STATEMENT OF BASIS

Norco Refinery
Motiva Enterprises LLC
Alkylation Unit
Norco, St. Charles Parish, Louisiana
Agency Interest Number: 1406
Activity Number: PER20030062
Draft Permits 2600-V1

and route it to the WWTP. Therefore, the WWTP is subject to Subpart F Maintenance Wastewater requirements and Subpart G Group 2 Process Wastewater requirements.

National Emission Standards for Hazardous Air Pollutants: NESHAP From Petroleum Refineries

Petroleum refining process unit that contains or contacts one or more of the HAPs listed in Table 1 of Subpart CC is potentially subject to RMACT.

There are fugitive components within the units in organic HAP service. Therefore, the units are subject to the equipment leak provisions of this rule and Motiva demonstrates compliance by complying with the provisions of 40 CFR 63.648(c), the modified HON option.

A process wastewater stream in a refining process unit that contains one or more of the HAPs listed in Table 1 of Subpart CC are potentially subject to RMACT. Wastewater components within the process units are associated with petroleum refining process units. Therefore, the wastewater provisions of the RMACT are applicable. Group 2 streams are not subject to any control, monitoring, recordkeeping, or reporting requirements under RMACT. Group 1 wastewater streams must demonstrate compliance with RMACT by complying with NESHAP Part 61 Subpart FF, BWON.

The units contain tanks that receive maintenance wastewater and wastewater streams that are subject to the wastewater provisions of RMACT. When determining whether a tank must comply with the storage vessel provisions or the wastewater provisions of the RMACT, the function of the tank (whether the tank stores a waste or a product for use or reuse) is used as the basis of the determination. As defined in RMACT Subpart CC, a wastewater tank is not a storage vessel. Notably, the units contain Group 2 wastewater tanks. Group 2 wastewater tanks are not subject to any control, monitoring, recordkeeping, or reporting requirements under RMACT.

The No. 1 Crude Unit contains tanks that receive maintenance wastewater and wastewater streams that are subject to the wastewater provisions of RMACT. When determining whether a tank must comply with the storage vessel provisions or the wastewater provisions of the RMACT, the function of the tank (whether the tank stores a waste or a product for use or reuse) is used as the basis of the determination. As defined in RMACT Subpart CC, a wastewater tank is not a storage vessel. Notably, the No. 1 Coker Unit contains Group 2 wastewater tanks. Group 2 wastewater tanks are not subject to any control, monitoring, recordkeeping, or reporting requirements under RMACT.

STATEMENT OF BASIS

Norco Refinery
Motiva Enterprises LLC
Alkylation Unit
Norco, St. Charles Parish, Louisiana
Agency Interest Number: 1406
Activity Number: PER20030062
Draft Permits 2600-V1

National Emission Standards for Hazardous Air Pollutants: NESHAP From Synthetic Organic Chemical Manufacturing Industry

The petroleum refining process unit that contains or contacts one or more of the HAPs listed in Table 1 of Subpart CC is potentially subject to RMACT. Leaks from equipment in organic HAP service that are located in a petroleum refining process unit are subject to RMACT. Equipment in organic HAP service in the WWTP Area is subject to the RMACT. CRLLC demonstrates compliance with this rule by complying with the provisions of 40 CFR 63.648. A process wastewater stream in a petroleum refining process unit that contains one or more of the HAPs listed in Table 1 of Subpart CC are potentially subject to RMACT. The WWTP receives process wastewater streams and, therefore, the wastewater provisions of the RMACT are applicable to the WWTP Area.

Notably, the benzene concentration of the wastewater streams generated in the WWTP Areas is less than 10 ppmw. Therefore, the wastewater stream can be classified as a Group 2 stream. There are no controls, monitoring, recordkeeping, or reporting requirements for Group 2 wastewater streams. However, the Vacuum Trucks within the WWTP may load and transport process wastewater streams from refinery units that can be classified as Group 1 streams. Per 40 CFR 63.647(a), Group 1 wastewater streams must demonstrate compliance with RMACT by complying with NESHAP Part 61 Subpart FF, BWON.

The WWTP area contains tanks that receive maintenance wastewater and wastewater streams that are subject to the wastewater provisions of RMACT. When determining whether a tank must comply with the storage vessel provisions or the wastewater provisions of the RMACT, the function of the tank (whether the tank stores a waste or a product for use or reuse) is used as the basis of the determination. As defined in RMACT Subpart CC, a wastewater tank is not a storage vessel. Notable, the WWTP area contains Group 2 wastewater tanks. Group 2 wastewater tanks are not subject to any requirements under RMACT.

The equipment leak provisions of Subpart CC apply to all equipment that operates in organic HAP service. Equipment includes all pumps, compressors, pressure relief devices, sampling connections, open-ended valves or lines, valves, flanges and other connectors, product accumulator vessels, and control devices, or systems required by Subpart CC. However, there are no fugitive components within the WWTP Area in organic HAP service. Therefore, the WWTP Area is not subject to the equipment leak provisions of this rule.

STATEMENT OF BASIS

Norco Refinery
Motiva Enterprises LLC
Alkylation Unit
Norco, St. Charles Parish, Louisiana
Agency Interest Number: 1406
Activity Number: PER20030062
Draft Permits 2600-V1

Prevention of Significant Deterioration Applicability

This application does propose insignificant modification to the facility. Insignificant modification does not require NSR/PSD review.

Air Modeling Analysis

No modeling was conducted as a part of this comprehensive update to the current Part 70 Air Permit Applications.

Comprehensive Toxic Air Pollutant Control Program-Chapter 51

Toxic air pollutant emissions from fugitives must be controlled to a degree that constitutes MACT. The units comply with all applicable provisions of the Louisiana Air Toxics Program.

Maximum Achievable Control Technology (MACT) requirements

The Louisiana Air Toxics Program (LA MACT) requires a major source emitting any Class I or II pollutant at a rate that exceeds the minimum emission rate for that pollutant to demonstrate compliance with the Maximum Achievable Control Technology (MACT) standards. Additionally, the Louisiana Air Toxics Program requires a major source emitting any Class I, II, or III toxic air pollutant greater than the minimum emission rate for that pollutant to determine its status of compliance with the applicable ambient air standard (AAS) defined for the pollutant.

The requirements of the LA MACT apply to the storage tanks and to the units as a whole. Motiva demonstrates compliance with the LA MACT requirements by complying with the most stringent applicable federal or state air toxics regulations as approved by LDEQ.

General Condition XVII Activities

Motiva is requesting General Condition XVII Activities under these permits. See SECTION VIII of the proposed permits.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. Motiva is not requesting any Insignificant Activities under these proposed permits.

V. PERMIT SHIELDS

A permit shield was not requested.

STATEMENT OF BASIS

Norco Refinery
Motiva Enterprises LLC
Alkylation Unit
Norco, St. Charles Parish, Louisiana
Agency Interest Number: 1406
Activity Number: PER20030062
Draft Permits 2600-V1

VI. PERIODIC MONITORING

The Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the SPECIFIC REOUIREMENTS section of the proposed permits.

VII. APPLICABILITY AND EXEMPTIONS OF SELECTED SUBJECT ITEMS
See Proposed Permits.

VIII. STREAMLINED REQUIREMENTS

The facility shall comply with NSPS, Subpart GGG in lieu of NESHAP, Subpart F and H, Subpart CC and LAC 33:III.2121 for fugitive emission sources except connectors. The facility shall comply with Louisiana Refinery MACT Determination July 26, 1994 for all connectors with a leak definition of 500 ppm. See SPECIFIC REQUIREMENTS section of the proposed permit in Logistics I. The fugitive emission sources for Logistics I and II (combined) are permitted under Logistics I proposed permit.

STATEMENT OF BASIS

Norco Refinery
Motiva Enterprises LLC
Alkylation Unit
Norco, St. Charles Parish, Louisiana
Agency Interest Number: 1406
Activity Number: PER20030062
Draft Permits 2600-V1

IX. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4) , Ethane (C_2H_6) , Carbon Disulfide (CS_2)

Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM₁₀- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air

STATEMENT OF BASIS

Norco Refinery
Motiva Enterprises LLC
Alkylation Unit
Norco, St. Charles Parish, Louisiana
Agency Interest Number: 1406
Activity Number: PER20030062
Draft Permits 2600-V1

Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

RMACT - Refinery Maximum Achievable Control Technology

Sulfur Dioxide (SO₂) - An oxide of sulfur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.